

# Memorandum

To: Honorable Bill Leonard

Date: July 7, 2008

From: Joe Fitz  
Chief Economist

Subject: Dynamic Sales and Use Tax Revenue Impacts

This is in response to your request to estimate the dynamic revenue impacts of a combination of four static revenue estimates, all of which increase sales and use tax revenues. The proposals and their respective static revenue estimates for fiscal year 2009-10 are shown in Table 1 (attached).

The Department of Finance spent several years developing a dynamic revenue analysis model (DRAM).<sup>1</sup> The Air Resources Board (ARB) also uses the DRAM model to assess the economic impacts of climate change. Because of budgetary and staffing considerations, Finance staff has not updated the model in several years. However, discussions with Finance and ARB staff indicate that numerical relationships from the model can continue to be used to make credible dynamic estimates.

The model assumes a balanced budget. Also, the model results occur over a period of 5 or 6 years, and the model does not break out impacts for individual years.

The investment and employment impacts of a billion dollar sales and use tax impact were most recently estimated by Finance for 2002. In consultation with Finance and ARB staff, we updated the 2002 statistical relationships of these data to 2007 using the change in the California consumer price index for this time period.

As shown in Table 1, the static revenue estimates total \$6,187 million. Table 2 shows the estimated dynamic revenue impacts of a billion dollar increase in the sales and use tax. The Finance dynamic model results show that sales and use tax revenues would be about 8 percent less than the static estimates. Alternatively stated, a static sales and use tax revenue estimate for a billion dollar (\$1,000 million) increase yields a dynamic revenue estimate of \$920 million. Associated with the tax increase are employment losses of 9,381 jobs and \$107 less in business investment spending.

Table 3 shows the impacts of the dynamic revenue estimates of Table 2 applied to the static revenue estimate total of Table 1. The impacts are 6.187 times greater than the Table 2 figures. A static revenue estimate of \$6.187 billion, implies a dynamic revenue estimate of \$5.692 billion, \$495 million lower. The dynamic model results also indicate that the tax increase would reduce California employment by about 58,000 jobs and reduce business investment by \$660 million.

One more impact of the sales and use tax proposals that should be discussed is the effect on inflation as measured by the consumer price index (CPI). The U.S. Bureau of Labor Statistics, the federal agency responsible for calculating the CPI, includes sales and use taxes in calculating it. While inflationary impacts of tax change proposals are dynamic impacts, I could not find a discussion of the inflationary impacts of in the documentation of the Finance DRAM model. Nor could the Finance staff provide me with any model output that measured the inflation impacts of sales and use tax change proposals run with their dynamic model.

However, I was able to calculate an estimate of the direct inflationary impact of a \$6,187 million sales and use tax increase on the CPI without the benefit of the Finance dynamic

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<sup>1</sup> The model documentation, *Dynamic Revenue Analysis for California*, 1996, is available at the Finance web site, [www.dof.ca.gov](http://www.dof.ca.gov).

model. While direct effects are only part of a more complete dynamic analysis, at least they provide a starting point.<sup>2</sup> A sales and use tax increase raises the costs of taxable goods to the degree that the costs of the tax increase are passed on to consumers. While studies show varying results, it seems likely that nearly all of the proposed sales and use tax increase would be passed on to consumers. In 2006 taxable sales were \$559.652 billion. A \$6.187 billion dollar tax increase would raise taxable consumer spending by 1.1 percent if the entire amount of the tax is passed on to consumers. The likely taxable categories of the BLS consumer expenditure items account for about 28 percent of the entire CPI.<sup>3</sup> These figures imply that the overall California CPI would increase by about 0.3 percent as a direct effect of the tax increase.

JF:jf

Attachment

cc: Honorable Judy Chu, Ph.D., Chair  
Honorable Betty T. Yee, Vice Chairwoman  
Honorable Michelle Steel  
Honorable John Chiang  
Mr. Ramon J. Hirsig  
Ms. Randie L. Henry  
Mr. Jeffery L. McGuire  
Ms. Margaret S. Shedd  
Mr. David E. Hayes  
Mr. Bill Benson

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<sup>2</sup> The dynamic inflationary impacts of a sales and use tax increase are complicated. While the direct costs of taxable goods increases, there are employment and investment declines as discussed earlier. (See Tables 2 and 3.) These declines could reduce overall demand, which could reduce the overall inflation rate. Without a dynamic impacts model it is difficult to say if the direct and indirect inflationary impacts combined are to increase or decrease the CPI.

<sup>3</sup> The BLS expenditure categories judged to include products that are mostly, if not entirely, subject to sales and use taxes include: nonalcoholic beverages, food consumed away from home, alcoholic beverages, apparel, new and used motor vehicles, motor fuel, motor vehicle parts and equipment, video and audio, personal computers and peripheral equipment, and tobacco and smoking products. For purposes of determining an estimate of the taxable share of the CPI all spending in these categories is assumed to be subject to sales and use taxes.



<b>Table 1</b>	
<b>Proposal</b>	<b>Fiscal Year 2009-10 Static Revenue Estimates (\$ Millions)</b>
(1) Increase the sales tax rate by one percent	\$6,000
(2) Adopt a 12-month test for use tax on out-of-state purchases of vehicles, vessels and aircraft	\$19
(3) Eliminate the partial exemption for agricultural machinery and equipment purchases	\$123
(4) Eliminate the partial exemption for diesel fuel used in farming and food processing	\$45
<b>Total</b>	<b>\$6,187</b>

<b>Table 2</b>	
<b>Estimated Dynamic Revenue Impacts of a One Billion Dollar Increase in the Sales and Use Tax, Holding All Other Taxes Constant And Assuming a Balanced Budget</b>	
Dynamic Revenue Impact (Percent)	-8%
Dynamic Revenue Impact (Millions of Dollars)	-\$80
Net Tax Revenues (Millions of Dollars)	\$920
Jobs Impacts (Number of Jobs)	-9,381
Business Investment Impacts (Millions of Dollars)	-\$107
Source: Communication with the Department of Finance staff, January 2003. Documented in memo from Joe Fitz to Honorable Bill Leonard, January 30, 2003, "Sales and Use Tax Increase Revenue Impacts." Employment and investment relationships updated from 2002 to 2007 using the California consumer price index.	

<b>Table 3</b>	
<b>Estimated Dynamic Revenue Impacts of Specified Sales and Use Tax Increases, Holding All Other Taxes Constant And Assuming a Balanced Budget</b>	
Static Sales and Use Revenue Estimate (Millions of Dollars)	\$6,187
Dynamic Revenue Impact (Percent)	-8%
Dynamic Revenue Impact (Millions of Dollars)	-\$495
Net Tax Revenues (Millions of Dollars)	\$5,692
Jobs Impacts (Number of Jobs)	-58,038
Business Investment Impacts (Millions of Dollars)	-\$660